

Application No. 09/871,039
Amendment

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BEST AVAILABLE COPY**IN THE CLAIMS:**

Please cancel claims 22-39 without prejudice to or disclaimer of the subject matter recited therein, and amend the remaining claims as follows:

1. (currently amended) A method of improving the performance of a direct feed fuel cell having an anode comprising a CO-tolerant catalyst, a solid polymer electrolyte, and a cathode, the fuel cell ~~normally~~ providing output power to a load in [[a]] an operating range from a minimum operational output level to a maximum operational output level, comprising:

providing a supply of fuel to the anode for the oxidation of the fuel to produce an oxidation product and electrons at the anode;

providing a supply of oxidant to the cathode for reduction of the oxidant, thereby producing a reduction product; and

reducing the output power of the fuel cell to the load at predetermined time intervals to be less than the ~~normal~~ minimum operational output level.

2. (original) The method of claim 1, wherein the output power of the fuel cell is periodically reduced at predetermined time intervals.

3. (previously submitted) The method of claim 2, wherein each said predetermined time interval has a duration in a range from about 0.5 hours to about 4 hours.

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4. (original) The method of claim 3, wherein the predetermined time intervals are about 30 minutes.

5. (previously submitted) The method of claim 1, wherein a ratio of the normal maximum output and the normal minimum output is less than or equal to 60:1.

6. (original) The method of claim 1, wherein the CO-tolerant catalyst comprises platinum and at least one element capable of adsorbing an oxygen-containing species at substantially lower potentials than a pure platinum catalyst.

7. (original) The method of claim 6, wherein the at least one element is selected from the group consisting of ruthenium, molybdenum, tin, tungsten, rhenium, osmium and iridium.

8. (previously submitted) The method of claim 1, wherein reducing the output power of the fuel cell includes reducing the output current from the fuel cell at predetermined time intervals.

9. (previously submitted) The method of claim 1, further comprising providing the output power to an external circuit that is switchable between a closed circuit condition in which the flow of electric current is permitted and an open circuit condition in which the flow of electric current is interrupted, wherein reducing the output power of

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the fuel cell includes switching the circuit to the open circuit condition at predetermined time intervals.

10. (previously submitted) The method of claim 1, further comprising interrupting the supply of fuel to the anode at predetermined time intervals when the output power of the fuel cell is reduced.

11. (previously submitted) The method of claim 1, further comprising interrupting the supply of oxidant to the cathode at predetermined time intervals when the output power of the fuel cell is reduced.

12. (original) The method of claim 1, wherein the cathode comprises platinum as catalyst.

13. (original) The method of claim 1, wherein the fuel comprises methanol.

14. (original) The method of claim 13, wherein the fuel comprises a liquid aqueous methanol solution.

15. (original) The method of claim 9, wherein the circuit is switched to the closed position for a period of greater than about 30 minutes.

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16. (previously submitted) The method of claim 9, wherein the circuit is switched to the open position for a period of less than about 30 seconds.

17. (previously submitted) The method of claim 9, wherein reducing the output power of the fuel cell at predetermined time intervals comprises:

operating the cell to provide electric current in the circuit for an operating period of about 0.5 to 4 hours;

opening the circuit to terminate the flow of electric current for a rest period of 1 second to 30 minutes; and

ramping the current to increase from zero to a working value for a ramping period of up to 5 minutes.

18. (original) The method of claim 17, wherein the operating period has a duration of greater than about 30 minutes.

19. (original) The method of claim 17, wherein the rest period has a duration of less than about 30 seconds.

20. (original) The method of claim 17, wherein the ramping period has a duration of less than about 2 minutes.

21. (original) The method of claim 17, wherein the ramping period has a duration of greater than about 10 seconds.

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Claims 22-39. (canceled)

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